



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
04/787,692	10/15/85	NILSSEN	0

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EXAMINER	
BEHA, W	
ART UNIT	PAPER NUMBER
212	41

DATE MAILED: 12/09/85

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.                  |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449                  | 4. <input type="checkbox"/> Notice of informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474      | 6. <input type="checkbox"/> _____   |

Part II SUMMARY OF ACTION

1. ☒ Claims 130 - 135 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 130 - 135 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. These drawings are ☐ acceptable;  
☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received  
☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

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Applicant has not complied with one or more of the following conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120:

The continuing application must contain a specific reference to the parent application(s) in the specification.

Claims 130-135 remain in the case.

Claims 130-135 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In essence, the claims are misdescriptive, confusing and incomplete. As to claim 130, providing a sinusoidal voltage at a pair of AC output terminals is misdescriptive since the disclosure as filed only supports a trapezoidal voltage across the inverter output terminals (figure 2, point M and ground, and figure 3A).

Moreover, as to claims 130-135, claiming a substantially square wave output at the inverter output terminals is also misdescriptive since figure 3 A shows a trapezoidal wave, with rise and fall times  $V$  and  $II$  being finite. A wave having finite rise and fall times does not come under the definition of a "substantially square wave" a wave characterized by a lack of rise and fall times.

Still further as to claim 130, it is noted that it is incomplete, the LC circuit "dangling" with no apparent relationship to the rest of the inverter or to any output terminals. As to the recitation of "one of said AC output terminals 'being electrically connected with one of said AC input terminals'", it is difficult to imagine what this means since every element in figure 2 is powered

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by and thus "electrically connected" with the AC input terminals. Thus this recitation is confusing. Claims 131-133 suffer the same defect.

Assuming however, that the phrase may mean physically and directly connecting an AC input terminal with an AC output terminal; this phrase then becomes misdescriptive of figure 2, since such relationship does not occur upon the application of 240 volts through a bridge rectifier (27-31) to the inverter.

As to claim 131, it is misdescriptive to call capacitors 34-36 a DC source and switches 42, 43 an inverter; capacitors 34, 36 are part of half-bridge inverter and must be grouped as such (see figure 5 of Walden). Moreover, the second paragraph fails to define the output terminals with relation to the LC circuit or the inverter. The claim also lacks the rectifier means to supply DC. Thus the claim is incomplete.

Claim 134 is also incomplete, failing to associate the output terminals with the LC circuit and with the "inverter output terminals". Moreover, it is not seen why the LC circuit is part of the inverter in claims 130 and it is part of an inverter output circuit in claim 134 and also claim 135. This loose use of circuit designations and interconnections is confusing.

With reference to claim 135, this claim is utterly confusing when viewed in light of the prosecution history. First applicant took pains to define the inverter frequency determined by the saturable core from from the resonant frequency of the LC circuit. Thereafter (claims 127, 128) applicant maintained that the inverter fre-

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quency is somehow co-determined by the combined saturable inductor and resonant circuit. New claim 135 puts this issue back to square one. Moreover, the last three lines are meaningless.

The time has come to stop quibbling over this issue using semantics and to amend the claims using structure, e.g., the saturable reactor and the LC circuit, as well as the relationship therebetween. Anything less will not meet the Section 112, paragraph 2 requirement. In its present form, therefore, claim 135 is structurally incomplete utterly confusing and basically functional.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 130 and 134 are rejected under 35 U.S.C. 103 as being unpatentable over Rhoads in view of Walden and Elms.

Fig. 2A of Rhoads discloses the combination of rectifier means BR1 and a half bridge inverter Q1, Q2 and

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C1, C2 to be old. Switch S1 determines whether the full bridge rectifier BR1 supplies its output across the series connected capacitors C1, C2. When connected as a voltage doubler switch S1 connects one AC input terminal to the junction of capacitors C1, C2.

The claims differs from Rhoads by calling for an LC tank circuit connected across the inverter output terminals. But this difference is shown by Schultz (fig. 1). And to place an output terminal near an input terminal is taught by Elms, terminal 30.

Claims 130, 134 and 135 are rejected under 35 U.S.C. 103 as being unpatentable over Rhoads in view of Steigerwald et al.

Except for the claimed LC circuit the claims are met by Rhoads. But Steigerwald et al. show a resonant tank circuit of the type claimed and to use same for a specific load (cooking) would have been obvious. It is noted that the claims are drawn to any load, thus a circuit having the claimed features for a specific load is pertinent to the broadly claimed terminals.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Laudis shows a DC source with a grounded center tap.

Any inquiry concerning this communication should be directed to William H. Beha at telephone number (703) 557-5052.

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12-05-85

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